

TWO NEW SPECIES OF *ERIGERON* (ASTERACEAE: ASTEREAEE) FROM MEXICO

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ABSTRACT

Two Mexican species of *Erigeron* are described as new to science. *Erigeron fluens* Nesom, *spec. nov.*, from sierran Veracruz, Hidalgo, and the Nuevo León/Tamaulipas border, is closely related to *E. karvinskianus* DC. *Erigeron reinana* Nesom, *spec. nov.*, from east-central Sonora, is most similar and apparently closely related to *E. coronarius* E. Greene.

KEY WORDS: *Erigeron*, Asteraceae, Astereae, taxonomy, México

Two previously undescribed species of *Erigeron* from México are brought to light in review of previously collected specimens and by recent collections from botanical exploration in Sonora.

Erigeron fluens Nesom, *spec. nov.* TYPE: MEXICO. Veracruz: Mpio. Acajetes, El Encinal, potrero, ladera de cerro, abundante en lugares despejados, 2400 m, 6 Apr 1970, F. Ventura A. 830 (HOLOTYPE: UNAM!; Isotype: ENCB!).

Erigeronti karvinskiano DC. affinis sed differt basi non ligneo stolonibus, statura brevior, et capitulis minoribus.

Perennial herbs from a system of slender, shallow rhizomes or stolons, without a caudex, apparently forming colonies of plants interconnected by rhizomes ca. 2-10 cm long, the erect stems 5-23 cm tall, unbranched and monocephalous, eglandular, sparsely strigose with retrorsely oriented hairs ca. 0.1 mm long. Leaves basal and cauline, without axillary tufts of smaller leaves, the lower mostly 15-25 mm long, 5-11 mm wide, gradually decreasing in size and lobing up to the peduncle base, oblanceolate to obovate, narrowed to a petiolar portion 1/5-1/3 the length of the leaf, not clasping, the blades 3-lobed (rarely 5-), the terminal lobe rounded, with lanceolate

to triangular lateral lobes, less commonly entire, minutely strigose above and beneath, eglandular. Heads solitary on ebracteate peduncles (2-)3-9 cm long and 1/5-4/5 the length of the whole stem, the shorter stems appearing essentially scapose; involucre 5-7 mm wide; phyllaries linear-lanceolate, in 3-4 subequal series, very sparsely strigose to glabrate, eglandular; receptacles convex. Rays 45-60, the lamina 5-6 mm long, white, apparently neither coiling nor reflexing; disc corollas tubular-funnelform, 1.8-2.0 mm long. Cypselas ca. 1.0-1.2 mm long, oblong, sparsely strigose; pappus of 12-16 barbellate bristles, usually with a few outer setae.

Additional collections examined: MEXICO. Hidalgo: Mpio. Tenango de Doria, El Estribo (cañada N), carretera Metepec-Tenango de Doria, bosque mixto, rocas andesíticas, abundante en los lugares húmedos, 1800 m, 29 Apr 1973, J.R. Giménez Leyva 953 (ENCB - 2 sheets). Nuevo León: Dulces Nombres, and just E of border into Tamaulipas, 24° N, 99.5-100.5° W, steep moist banks above dry stream bed, 1310 m, 25 Jun 1948, F.G. Meyer & D.J. Rogers 2671 (MO,US).

Erigeron fluens is named for the "flowing" aspect of its low habit and thin, spreading rhizomes.

Collections of the newly recognized species all were first identified as *Erigeron karvinskianus* DC. -- the US sheet (Meyer & Rogers 2671) was noted by S.F. Blake (on the label) as a "form" of *E. karvinskianus*. The two entities are similar in their characteristically lobed leaves, sparse and eglandular vestiture, long-pedunculate heads, and white rays with non-reflexing, non-coiling lamina (sect. *Karvinskia* Nesom, see Nesom 1989). Plants of *E. karvinskianus*, however, characteristically produce a woody or lignescent caudex, lignescent lower stems, and range up to 1 meter in height. Stems of *E. karvinskianus* may root adventitiously at the nodes when the stems are decumbent or prostrate, but this apparently is uncommon to rare and observation of hundreds of plants collected over the entire range of the species show none with the characteristic colonial habit of *E. fluens*. Plants of *E. fluens* also are shorter (5-23 cm tall vs. mostly 20-100 cm tall) and produce smaller heads (involucre 5-7 mm wide vs. 7-9 mm wide). The Nuevo León locality of *E. fluens* lies slightly north of the northernmost populations of *E. karvinskianus* in the northeastern corner of its native range (southwestern Tamaulipas).

Erigeron reinana Nesom, spec. nov. TYPE: MEXICO. Sonora: Mpio. Yécora, 1.1 km N of El Llano on Mesa del Campanero, pine-oak forest, 2150 m; 28° 02' N, 109° 01' 30" W; uncommon annual, 18 Sep 1999, A.L. Reina G. 99-753 with T.R. Van Devender (HOLOTYPE: TEX).

A *Erigeronte coronario* E. Greene corollis radii laxe circinatis, corollis discii anguste tubularibus, et acheniis pappo setis plerumque carentibus differt.

Taprooted annuals, stems several from the base, 9-23 cm tall, branching above the middle, eglandular, coarsely and sparsely hirsute with thick-based hairs mostly along the ridges, the hairs on the upper portions of the stem becoming upcurved, strigose immediately beneath the heads. Leaves all cauline, narrowly oblanceolate to linear, the

lower 25-35 mm long, 3.0-3.5 mm wide, gradually reduced in size upwards to linear bracts on the peduncles, the margins and midribs coarsely ciliate with thick-based hairs. Heads on bracteate peduncles, numerous in a relatively congested capitulescence; buds apparently erect; involucre 4.5-5.0 mm wide; phyllaries linear-lanceolate, thickened to the edge, sparsely short-hirsute to hirsute-strigose, with an orange midvein, in 3-4 subequal series, the inner 3.0-3.5 mm long; receptacles low-convex. Ray flowers 40-55, the lamina 3.5-5.0 mm long, 0.4-0.6 mm wide, white, drying pinkish, without a definite colored midstripe, apparently loosely coiling. Disc corollas tubular-funnelform, orange-veined, 2 mm long, not prominently inflated above the short tube. Cypselas ca. 1.0-1.3 mm long, oblong, orange-veined, sparsely short-strigose; pappus a minutely fimbriate crown ca. 0.08 mm high, without bristles or inner florets variably with 1-3 extremely fragile, barbellate bristles.

The plant is named in honor of its collector, Ana Lilia Reina Guerrero, a botanist and ethnobotanist, who has been studying the flora of the Yécora area for the past eight years.

"Mesa del Campanero, located above the town of Yécora, is one of the higher areas in the Sierra Madre Occidental in eastern Sonora. The vegetation on top of Mesa del Campanero at 2000-2200 m elevation is a pine-oak forest dominated by *Pinus engelmannii* and *Quercus mcvaughii*. Other important trees include occasional *P. strobiformis*, *Q. arizonicus*, *Q. coccolobifolia*, and *Arbutus arizonicus* and *A. xalapensis*. *Arctostaphylos pungens* is a locally common shrub. The new species was in a disturbed area near the road that traverses the top of the Mesa" (*vide* Tom Van Devender).

Erigeron reinana is recognized by its taprooted habit, narrow, entire leaves, numerous heads on short peduncles, erect buds, and pappus a minutely fimbriate crown, without bristles or with inner florets variably with 1-3 extremely fragile, barbellate bristles. A number of characters suggest that the new species is related to *E. coronarius* E. Greene and other species of *Erigeron* sect. *Geniculactis* Nesom (Nesom 1990). These species have in common a taprooted habit, a vestiture of course hairs mostly along the cauline ridges and foliar veins, narrow, entire leaves, numerous heads on short peduncles, erect buds, orange-veined achenes, a coronate pappus, usually with bristles few in number (4-16, reduced to only a corona in *E. janivultus* Nesom; coronate but very rarely without bristles in *E. coronarius*), and they mostly occur in western continental México. In contrast to the diagnostic features of sect. *Geniculactis*, however, the ray florets of *E. reinana* are fewer (40-55 vs. 80-250), the ray lamina apparently are loosely coiling (vs. reflexing at the tube-lamina junction) and the disc corollas are narrowly tubular (vs. prominently inflated above the tube).

Only two other species besides *Erigeron reinana* in western México are taprooted and lack pappus bristles: *E. strigosus* E. Greene (sect. *Imbarba* Nesom) and *E. versicolor* (Greenm.) Nesom (sect. *Olygotrichium* Nutt.) (Nesom 1989). The specialization in habit and reduced pappus apparently are independently derived in each of these species.

KEY TO EPAPPOSE, TAPROOTED SPECIES OF *ERIGERON* IN CHIHUAHUA AND SONORA

1. Heads 7-10 mm wide; rays 80-200, (6-)8-16 mm long; achene apex "shouldered" (incurved below pappus insertion), with thickened, white ribs. *E. strigosus*
1. Heads 5-9 mm wide; rays 40-400, 4-6 mm long; achene apex not shouldered, with thin, orange ribs.....(2)
2. Heads on long, ebracteate peduncles; involucre 5-9 mm wide; buds nodding; phyllaries ovate with broad, hyaline margins; rays 250-400, achenes with only a cartilaginous rim; receptacles conical..... *E. versicolor*
2. Heads numerous on short, bracteate peduncles; involucre 4.5-5.0 mm wide; buds erect; phyllaries linear, thickened to the margins; rays 40-55; pappus coronate; receptacles low-convex..... *E. reinana*

ACKNOWLEDGMENTS

I thank the staff of LL,TEX for assistance during a recent visit, ENCB, MEXU, MO, and US for loans to TEX, and Tom Van Devender for contribution to the comments on *Erigeron reinana*. Photocopies of specimens of *E. fluens* are on file at TEX.

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